Risk Assessment Codes and Ergonomics

COL Mary Lopez

12 August 2003

Risk Evaluation

- Basis for decisions
- *Perception of risk*
- *Acceptability of risk*
  - Voluntary vs involuntary
  - Natural vs man-made
  - Relates to self-worth vs does not relate
  - Essential vs non-essential
  - Delayed effect vs immediate
  - Common vs uncommon
  - Mundane vs dramatic

Risk Evaluation

- *Estimation of Magnitude of Risk*
  - Underestimate familiar systems
  - Overestimate unknown
- Loss Dimension
  - Death
  - Property damage
  - Injury
    - Spectrum

Risk Assessment and Management

- Identify and evaluate the hazards
  - Likelihood and consequences
- Assess risk
  - Evaluate expected loss or risk of each hazard
  - Sum over system operations and life
  - High frequency / low consequence and Low / High
- Develop countermeasures
- Allocate resources
- Accept residual risk

Safety Value Analysis – Limited Resources

The Long Ergo RAC History

- DOD EWG Efforts
  - Identified need (Surveys, Acquisition)
  - DODI 6055.1
  - Medical RACs vs Safety RACs
- Ergonomic Hazards
  - Risk Factors (Posture, Force, Repetition, Vibration, Temperature)
  - Body Parts Affected

Risk Assessment Codes

- Threshold questions
  - Criteria
    - Subjective (pain and suffering)
    - Measurable physiologic damage
    - MIL STD 1472F
- Key factors –
  - Magnitude of exposure
  - Duration of exposure
  - Frequency of exposure

Hazard Severity

Rating	Category	Severity / Health Effect
5	Very High	Permanent total disability -Extreme frequent loads (>87 lbs), forces, postures
4	High	Permanent partial disability / Temporary total disability (3 mos) -Heavy loads (56 lbs), twisting, highly repetitive and forceful, vibration (>6 hours)
3	Moderate	Lost workday injury / compensable injury -Moderate loads (37 lbs), repetitive and forceful,

Hazard Severity

Rating	Category	Severity / Health Effect
2	Low	First Aid / Minor Supportive Medical Treatment -Moderate loads, repetition, moderate postures, vibration (> 2 hours), cold temperatures
1	Negligible	Temporary discomfort -Light loads (< 37 lbs), occasional postures

Probability

Rating	Category	Probability
5	Very High	Likely to occur immediately
4	High	Injury likely over time
3	Moderate	Injury possibly will occur over time
2	Low	Injury unlikely to occur
1	Negligible	Injury not possible (current science cannot determine if injury will occur)

DODI 6055.1

- RAC Calculation
- Prioritization
  - RAC
  - Number affected
  - Cost of control

Questions??